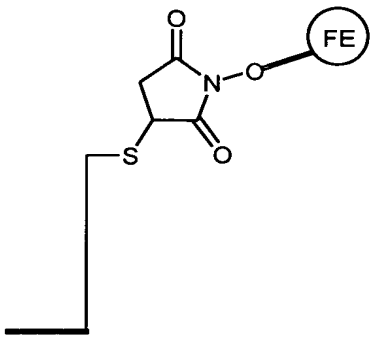
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

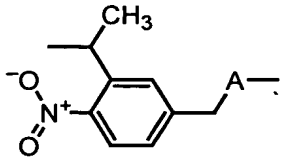
1. (Original) A building block of the general formula



capable of transferring a functional entity (FE) to a recipient reactive group, wherein

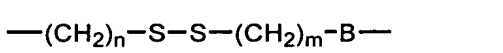
the lower horizontal line is a **Complementing Element** identifying the functional entity and the vertical line between the complementing element and the S atom is a **Spacer.**

2. (Original) The building block of claim 1, wherein the spacer is a valence bond, C_1-C_6 alkylene-A-, C_1-C_6 alkenylene-A-, C_2-C_6 alkynylene-A-, or



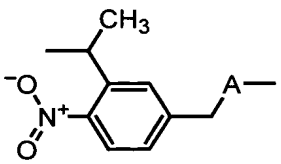
said spacer optionally being connected through A to a moiety selected from

and

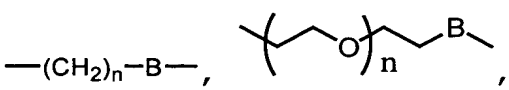


where A is a valence bond, $-C(O)NR^1-$, $-NR^1-$, -O-, -S-, or -C(O)-O-; B is a valence bond, -O-, -S-, $-NR^1-$ or $-C(O)NR^1-$ and connects to the S atom of the carrier; R^1 is selected independently from H, C_1-C_6 alkyl, C_3-C_7 cycloalkyl, C_1-C_6 alkylene-aryl, or aryl substituted with 0-5 halogen atoms selected from -F, -Cl, -Br and -I; and n and m independently are integers ranging from 1 to 10.

3. (Original) The compound according to claim 1, wherein the **Spacer** is C_1-C_6 alkylene-A-, C_1-C_6 alkenylene-A-, C_2-C_6 alkynylene-A-, or



said spacer optionally being connected through A to a moiety selected from

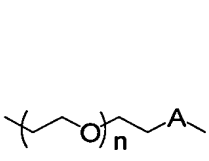


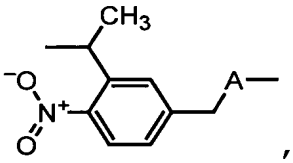
and

—$(CH_2)_n$–S–S–$(CH_2)_m$–B—

where A is $-C(O)NR^1-$, or -S-; B is -S-, $-NR^1-$ or $-C(O)NR^1-$ and connects to S-C-connecting group; R^1 is selected independently from H, C_1-C_6 alkyl, C_1-C_6 alkylene-aryl, or aryl; and n and m independently are integers ranging from 1 to 6.

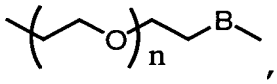
4. (Original) The compound according to claim 1, wherein **Spacer** is -A-, a group C_1-C_6 alkylene-A-, C_2-C_6 alkenylene-A-, or C_2-C_6 alkynylene-A- optionally substituted with 1 to 3 hydroxy groups, or



,


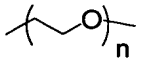
,

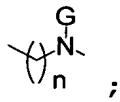
said spacer being connected through A to a linker selected from

-B-, —$(CH_2)_n$–B—,


, and

—$(CH_2)_n$–S–S–$(CH_2)_m$–B—

where A is a valence bond, $-NR^2-$, $-C(O)NR^2-$, $-NR^2-C(O)-$, -O-, -S-, -C(O)-O- or $-OP(=O)(O^-)-O-$; B is a valence bond, -O-, -S-, $-NR^2-$, -C(O)- or $-C(O)NR^2-$ and connects to S-C-connecting group; R^2 is selected independently from H, C_1-C_6 alkyl, C_3-C_7 cycloalkyl, aryl, C_1-C_6 alkylene-aryl,


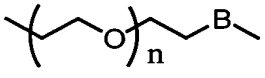
or


; G is

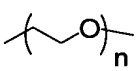
H or C_1-C_6 alkyl; and n and m independently are integers ranging from 1 to 10.

5. (Original) A compound according to claim 4, wherein the **spacer** is C_2-C_6 alkenylene-A,

said spacer being connected through A to a moiety selected from

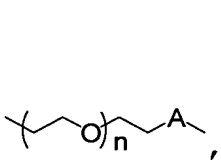
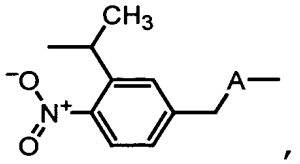
-B-, —$(CH_2)_n$—B—, or  ,

where A is a valence bond, $-C(O)NR^2-$, $-NR^2-C(O)-$, -S-, -C(O)-O- or $-OP(=O)(O^-)-O-$; B is a valence bond, -S-, $-NR^2-$, or -C(O)- and connects to S-C-connecting group; n and m independently are integers ranging from 1 to 10 and

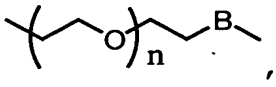
R^2 is selected independently from H,  or  ,

wherein G is H or C_1-C_6 alkyl; and the spacer is connected to the complementing element through a nucleobase.

6. (Original) A compound according to claim 4, wherein the **spacer** is -A-,

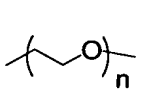
 , or  ,

said spacer being connected through A to a moiety selected from

-B-, —$(CH_2)_n$—B—, or  ,

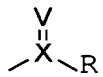
where A is a valence bond, -NR^2-C(O)-, -O-, or -S-; B is a valence bond, -S-, -NR^2-, or -C(O)- and connects to S-C- connecting group;

n and m independently are integers ranging from 1 to 10 and

R^2 is selected independently from H,  or  ,

wherein G is H or C_1-C_6 alkyl; and the spacer is connected to the complementing element via a phosphorus group.

7. (Original) A compound according to claim 6, wherein the phosphorus group is a phosphate or thiophosphate group attached to a 3′ or 5′ end of a complementing element.

8. (Currently Amended) The building block according to ~~any of the claims 1 to 7~~ claim 1, wherein **FE** is  R where

X = -C-, -S-, -P-, -S(O)-, or -P(O)-,

V = O, S, NH, or N-C_1-C_6 alkyl, and

R is H or selected among the group consisting of a C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_4-C_8 alkadienyl, C_3-C_7 cycloalkyl, C_3-C_7 cycloheteroalkyl, aryl, and heteroaryl, said group being substituted with 0-3 R^4, 0-3 R^5 and 0-3 R^9 or C_1-C_3 alkylene-$NR^4{}_2$, C_1-C_3 alkylene-$NR^4C(O)R^8$, C_1-C_3

alkylene-$NR^4C(O)OR^8$, C_1-C_2 alkylene-O-NR^4_2, C_1-C_2 alkylene-O-$NR^4C(O)R^8$, C_1-C_2 alkylene-O-$NR^4C(O)OR^8$ substituted with 0-3 R^9[[.]],

where R^4 is H or selected independently among the group consisting of C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_7 cycloalkyl, C_3-C_7 cycloheteroalkyl, aryl, heteroaryl, said group being substituted with 0-3 R^9 and

R^5 is selected independently from $-N_3$, -CNO, $-C(NOH)NH_2$, -NHOH, $-NHNHR^6$, $-C(O)R^6$, $-SnR^6_3$, $-B(OR^6)_2$, $-P(O)(OR^6)_2$ or the group consisting of C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_4-C_8 alkadienyl said group being substituted with 0-2 R^7,

where R^6 is selected independently from H, C_1-C_6 alkyl, C_3-C_7 cycloalkyl, aryl or C_1-C_6 alkylene-aryl substituted with 0-5 halogen atoms selected from -F, -Cl, -Br, and -I; and R^7 is independently selected from $-NO_2$, $-COOR^6$, $-COR^6$, -CN, $-OSiR^6_3$, $-OR^6$ and $-NR^6_2$[[.]],

R^8 is H, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_7 cycloalkyl, aryl or C_1-C_6 alkylene-aryl substituted with 0-3 substituents independently selected from -F, -Cl, $-NO_2$, $-R^3$, $-OR^3$, $-SiR^3_3$

R^9 is =O, -F, -Cl, -Br, -I, -CN, $-NO_2$, $-OR^6$, $-NR^6_2$, $-NR^6$-$C(O)R^8$, $-NR^6$-$C(O)OR^8$, $-SR^6$, $-S(O)R^6$, $-S(O)_2R^6$, $-COOR^6$, $-C(O)NR^6_2$ and $-S(O)_2NR^6_2$.

9. (Original) A compound according to claim 8, wherein R is H or selected among the group consisting of a C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_4-C_8 alkadienyl, C_3-C_7 cycloalkyl, C_3-C_7 cycloheteroalkyl, aryl, and heteroaryl, said group being substituted with 0-3 R^5 and 0-3 R^9, or selected among the group consisting of C_1-C_3 alkylene-$NR^4{}_2$, C_1-C_3 alkylene-$NR^4C(O)R^8$, C_1-C_3 alkylene-$NR^4C(O)OR^8$, C_1-C_2 alkylene-O-$NR^4{}_2$, C_1-C_2 alkylene-O-$NR^4C(O)R^8$, and C_1-C_2 alkylene-O-$NR^4C(O)OR^8$ substituted with 0-3 R^9.

10. (Currently Amended) A compound according to ~~claims 8 or 9~~ claim 8, wherein R is H or selected among the group consisting of C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_4-C_8 alkadienyl, C_3-C_7 cycloalkyl, C_3-C_7 cycloheteroalkyl, aryl, and heteroaryl, said group being substituted with 0-3 R^5 and 0-3 R^9.

11. (Currently Amended) A compound according to ~~any of the claims 8 to 10~~ claim 8, wherein R is selected among the group consisting of C_1-C_3 alkylene-$NR^4{}_2$, C_1-C_3 alkylene-$NR^4C(O)R^8$, C_1-C_3 alkylene-$NR^4C(O)OR^8$, C_1-C_2 alkylene-O-$NR^4{}_2$, C_1-C_2 alkylene-O-$NR^4C(O)R^8$, and C_1-C_2 alkylene-O-$NR^4C(O)OR^8$ substituted with 0-3 R^9.

12. (Currently Amended) A compound according to ~~any of the claims 1 to 11~~ claim 1, wherein X = C and V = O or S.

13. (Currently Amended) A compound according to ~~claims 1 to 12~~ claim 1, wherein X = C and V = O.

14. (Currently Amended) A compound according to ~~claims 1 to 13~~ claim 1, wherein complementing element is a nucleic acid.

15. (Currently Amended) A compound according to ~~claims 1 to 14~~ claim 1, wherein Complementing element is a sequence of nucleotides selected from the group of DNA, RNA, LNA PNA, or morpholino derivatives.

16. (Currently Amended) A library of compounds according to ~~any of the claims 1 to 15~~ claim 1, wherein each different member of the library comprises a complementing element having a unique sequence of nucleotides, which identifies the functional entity.

17. (Currently Amended) A method for transferring a functional entity to a recipient reactive group, comprising the steps of

providing one or more building blocks according to ~~claims 1 to 15~~ claim 1,

contacting the one or more building blocks with a corresponding encoding element associated with a recipient reactive group under conditions which allow for a recognition between the one or more complementing elements and the coding elements, said contacting being performed prior to, simultaneously with, or subsequent to a transfer of the functional entity to the recipient reactive group.

18. (Original) The method according to claim 17, wherein the coding element comprises one or more coding sequences comprised of 1 to 50 nucleotides and the one or more complementing elements comprises a sequence of nucleotides complementary to one or more of the coding sequences.

19. (Currently Amended) The method of ~~claims 17 or 18~~ claim 17, wherein the recipient reactive group is an amine group, which may be part of a chemical scaffold, and the linkage between the functional entity and the scaffold is of the general chemical structure:

Scaffold-NH-X(=V)-R

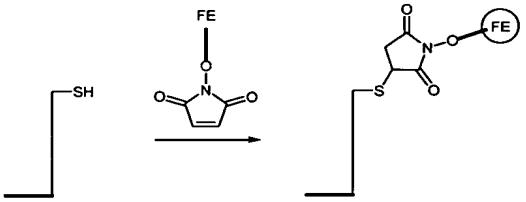
In which

X = -C-, -S-, -P-, -S(O)-, -P(O)-, and

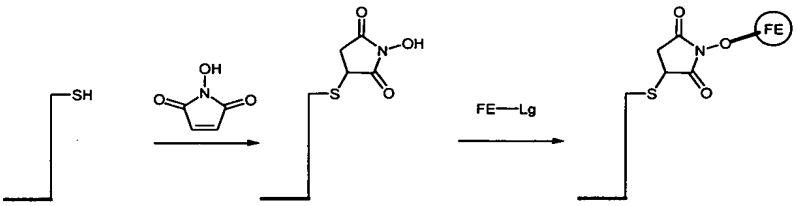
V = O, S, NH, N-C_1-C_6 alkyl.

20. (Original) The method according to claim 19, wherein X is C and V is O.

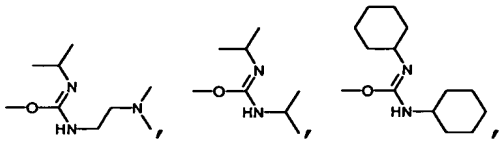
21. (Original) A process for preparing a building block according to claim 1, comprising the step of



22. (Original) A process for preparing a building block according to claim 1, comprising the steps of



where Lg is a leaving group.

23. (Original) A process according to claim 18, wherein the leaving group is selected from  , Cl, Br.